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CLAIMS

Claimed is:

1. A particle passing device (1) for the carrying out of material separation by means of permeation of liquids through more than one slayer of porous, flat, adsorption membranes (5), which are spaced apart from one another and are provided with at least one hole (6) for he passage of the particles (8), whereby the device (1), possesses a liquid inlet (3) proximal to the first layer, and also a liquid outlet (4) proximal to the last layer, and the separated layers of the flat membranes (5), in their peripheral edge zones are made impermeable for the liquids in such a way, that the liquids to be treated (7) from the liquid inlet (3) to the liquid outlet (4) must pass through the layers (5), sequentially, whereby in each layer (5), respectively, a first portion (11) of the liquid to be treated permeates free of particles through the pores of the flat adsorption membrane and the remaining portion (12) of the liquid to be treated (7), laden with the particles, passes through the at least one hole (6) in the membrane (5) and both partial flows (11, 12) are once again united on the subsequent membrane.
2. A device (1) in accord with Claim 1 in which the at least one hole (6) of the neighboring layers (5) are offset from one another.
3. A device (1) in accord with in accord with Claim 1 or Claim 2, in which the at least one hole (6) occupies a portion relative to the area of the layer of the flat membrane (5) of up to 20 %, advantageously, up to 4 %.
4. A device (1) in accord with one of the foregoing Claims, in which the at least one hole (6) is construction in circular shape and possesses a diameter of 0.01 to 20 nm, preferably 0.5 to 2 mm.

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5. A device (1) in accord with one of the foregoing claims, in which the neighboring layers of the porous, flat membrane (5), by means of a spacer (13), maintain, in parallel arrangement, a separating space of 0.1 to 5 mm, preferably between 0.2 to 1 mm, one from the other.

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6. A device (1) in accord with Claim 5, in which the spacer 13 is comprised of webs, grating, mesh or matting.
7. A device (1) in accord with Claim 1, in which the flat membrane (5) possesses a pore diameter in a range between 0.1 and 10 μm , preferably between 3 to 5 μm .
8. A device (1) in accord with Claim 1, in which the flat membranes (5) carry functional groups, and/or ligands, or reactants, which have the capability of joining in exchange action with at least one material in the liquid 7.
9. A device (1) in accord with one of the foregoing Claims, in which the layers (5) are shaped into a winding and the device (1) is designed as a wound module.

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